

What is claimed is:

1. An apparatus having an execution unit for
executing a machine language, compiling a source
5 program into a machine language directly executable
by the execution unit, and executing the machine
language in a just-in-time-compiler system,
comprising:

a storage unit storing for each function a
10 machine language executable by the execution unit
obtained by compiling a function described in the
source program, and maintaining stored data
although a power supply voltage has dropped;

a compiling unit compiling the source program
15 into a machine language executable by the execution
unit;

a storage control unit storing the machine
language compiled by said compiling unit;

a determination unit determining whether or
20 not a machine language obtained by compiling a
function used in the source program is stored in
said storage unit; and

an execution control unit instructing the
execution unit to directly execute either a machine
25 language compiled by said compiling unit or a

machine language stored in said storage unit depending on a determination result obtained by said determination unit.

- 5 2. The apparatus according to claim 1, wherein
 said storage unit stores in advance a machine
 language obtained by compiling a function which can
 be used in the source program.

- 10 3. The apparatus according to claim 1, further
 comprising
 semiconductor memory copying and storing data
 stored in said storage unit, wherein
 said execution control unit instructs the
15 execution unit to execute a machine language copied
 from the data stored in said storage unit and
 stored in said semiconductor memory instead of
 instructing the execution unit to execute a machine
 language stored in said storage unit.

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4. The apparatus according to claim 1, wherein
 said source program is described in Java byte
 code.

- 25 5. An apparatus having an execution unit for

executing a machine language, compiling a source program into a machine language directly executable by the execution unit, and executing the machine language in a just-in-time-compiler system, comprising:

5 a storage unit storing for each function a machine language executable by the execution unit obtained by compiling a function described in the source program, and maintaining stored data after
10 the source program has been executed;

a compiling unit compiling the source program into a machine language executable by the execution unit;

15 a storage control unit storing the machine language compiled by said compiling unit corresponding to update date and time of the source program compiled by said compiling unit;

20 a determination unit determining whether or not the update date and time of the source program matches an update date and time corresponding to the machine language stored in said storage unit; and

25 an execution control unit instructing the execution unit to directly execute either a machine language compiled by said compiling unit or a

machine language stored in said storage unit depending on a determination result obtained by said determination unit.

- 5 6. The apparatus according to claim 5, further comprising

a read unit reading a program file storing the source program, wherein

- 10 said storage control unit stores the machine language in said storage unit by assuming that the update date and time of the program file indicated in the program file is the update date and time of the source program corresponding to the machine language; and

- 15 said determination unit determines whether or not the update date and time of the program file indicated in the program file matches the update date and time stored in said storage unit corresponding the machine language.

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7. The apparatus according to claim 5, wherein said source program is described in Java byte code.

- 25 8. An apparatus having execution means for

executing a machine language, compiling a source program into a machine language directly executable by said execution means, and executing the machine language in a just-in-time-compiler system,
5 comprising:

storage means for storing for each function a machine language executable by the execution means obtained by compiling a function described in the source program, and maintaining stored data
10 although a power supply voltage has dropped;

compiling means for compiling the source program into a machine language executable by the execution means;

storage control means for storing the machine
15 language compiled by said compiling means;

determination means for determining whether or not a machine language obtained by compiling a function used in the source program is stored in said storage means; and

20 execution control means for instructing the execution means to directly execute either a machine language compiled by said compiling means or a machine language stored in said storage means depending on a determination result obtained by
25 said determination means.

9. An apparatus having execution means for executing a machine language, compiling a source program into a machine language directly executable
5 by the execution means, and executing the machine language in a just-in-time-compiler system, comprising:

storage means for storing for each function a machine language executable by the execution means
10 obtained by compiling a function described in the source program, and maintaining stored data after the source program has been executed;

compiling means for compiling the source program into a machine language executable by the
15 execution means;

storage control means for storing the machine language compiled by said compiling means corresponding to update date and time of the source program compiled by said compiling means;

20 determination means for determining whether or not the update date and time of the source program matches an update date and time corresponding to the machine language stored in said storage means; and

25 execution control means instructing the

execution means to directly execute either a machine language compiled by said compiling means or a machine language stored in said storage means depending on a determination result obtained by said determination means.

10. A method for executing a program based on a just-in-time-compiler system for compiling a source program into a machine language directly executable on a platform of a specific processing system, and executing the machine language, comprising:

storing in a storage unit, which maintains stored data although a supply voltage has dropped, the machine language obtained by compiling the source program for each function expressed in the source program;

determining whether or not the machine language obtained by compiling the function described in the source program is stored in the storage unit; and

setting either the machine language obtained by compiling the source program or the machine language stored in the storage unit to be directly executed on a platform of a specific processing system based on a determination result.

11. A method for executing a program based on a just-in-time-compiler system for compiling a source program into a machine language directly executable
 5 on a platform of a specific processing system, and executing the machine language, comprising:

storing the machine language obtained by compiling the source program for each function described in the source program corresponding to an
 10 update date and time of the source program before compiled into a machine language;

determining whether or not the date and time of the update of the source program matches an update date and time corresponding to the stored
 15 machine language; and

setting either the machine language obtained by compiling the source program or the machine language stored in the storage unit to be directly executed on a platform of a specific processing
 20 system based on a determination result.

12. A computer-readable storage medium storing a computer program used to direct a computer based on a just-in-time-compiler system to compile a source
 25 program into a machine language directly executable

on a platform of a specific processing system, and execute the machine language, comprising:

storing in a storage unit, which maintains stored data although a supply voltage has dropped,
5 the machine language obtained by compiling the source program for each function expressed in the source program;

determining whether or not the machine language obtained by compiling the function
10 described in the source program is stored in the storage unit; and

setting either the machine language obtained by compiling the source program or the machine language stored in the storage unit to be directly
15 executed on a platform of a specific processing system based on a determination result.

13. A computer-readable storage medium storing a computer program used to direct a computer based on
20 a just-in-time-compiler system to compile a source program into a machine language directly executable on a platform of a specific processing system, and execute the machine language, comprising:

storing the machine language obtained by
25 compiling the source program for each function

described in the source program corresponding to an update date and time of the source program before compiled into a machine language;

determining whether or not the date and time
5 of the update of the source program matches an update date and time corresponding to the stored machine language; and

setting either the machine language obtained
by compiling the source program or the machine
10 language stored in the storage unit to be directly executed on a platform of a specific processing system based on a determination result.

14. A computer program embodied on a transmission
15 medium used to direct a computer based on a just-in-time-compiler system to compile a source program into a machine language directly executable on a platform of a specific processing system, and execute the machine language, comprising:

20 storing in a storage unit, which maintains stored data although a supply voltage has dropped, the machine language obtained by compiling the source program for each function expressed in the source program;

25 determining whether or not the machine

language obtained by compiling the function described in the source program is stored in the storage unit; and

5 setting either the machine language obtained by compiling the source program or the machine language stored in the storage unit to be directly executed on a platform of a specific processing system based on a determination result.

10 15. A computer program embodied on a transmission medium used to direct a computer based on a just-in-time-compiler system to compile a source program into a machine language directly executable on a platform of a specific processing system, and
15 execute the machine language, comprising:

 storing the machine language obtained by compiling the source program for each function described in the source program corresponding to an update date and time of the source program before
20 compiled into a machine language;

 determining whether or not the date and time of the update of the source program matches an update date and time corresponding to the stored machine language; and

25 setting either the machine language obtained

by compiling the source program or the machine language stored in the storage unit to be directly executed on a platform of a specific processing system based on a determination result.

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16. A computer data signal embodied in a carrier wave containing a computer program used to direct a computer based on a just-in-time-compiler system to compile a source program into a machine language directly executable on a platform of a specific processing system, and execute the machine language, said computer program comprising:

storing in a storage unit, which maintains stored data although a supply voltage has dropped, the machine language obtained by compiling the source program for each function expressed in the source program;

determining whether or not the machine language obtained by compiling the function described in the source program is stored in the storage unit; and

setting either the machine language obtained by compiling the source program or the machine language stored in the storage unit to be directly executed on a platform of a specific processing

system based on a determination result.

17. A computer data signal embodied in a carrier wave containing a computer program used to direct a computer based on a just-in-time-compiler system to compile a source program into a machine language directly executable on a platform of a specific processing system, and execute the machine language, said computer program comprising:

10 storing the machine language obtained by compiling the source program for each function described in the source program corresponding to an update date and time of the source program before compiled into a machine language;

15 determining whether or not the date and time of the update of the source program matches an update date and time corresponding to the stored machine language; and

20 setting either the machine language obtained by compiling the source program or the machine language stored in the storage unit to be directly executed on a platform of a specific processing system based on a determination result.